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MAIL STOP APPEAL BRIEF-PATENTS
PATENTS
3502-1021

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Ari BECKS et al. Conf. 7165

Application No. 09/701,069 Group 2654

Filed November 27, 2000 Examiner Myriam Pierre

METHOD AND ARRANGEMENT FOR TRANSLATION OF INFORMATION

APPEAL BRIEF

MAY IT PLEASE YOUR HONORS: March 23, 2006

(i) **Real Party in Interest**

The real party in interest in this appeal is the Assignee, Master's Innovations LTD of Helsinki, Finland.

(ii) **Related Appeals and Interferences**

Neither the appellants, appellants' legal representative nor the assignee know of any other prior or pending appeals, interferences or judicial proceedings which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(iii) **Status of the Claims**

Claims 1-2, 4-6, and 8-16 are pending. Claims 1, 10 and 16 are independent.

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iv) **Status of Amendments**

There have been no amendments since the Amendment of December 10, 2004. The claims, as pending, are as set forth in the Claims Appendix.

(v) **Summary of Claimed Subject Matter**

The invention is a method and arrangement for translating a character string in a first language into a character string in a second language, e.g., for machine translation of text information (specification page 1, first paragraph).

The inventive method includes storing first language character string model segments in a knowledge database, and storing second language model segments in logical connection with the first language character strings, the second language model segments being second language character strings. See Figure 2, mass storage 25.

Figure 1 of the application is a flow chart that illustrates the invention's steps.

As per steps 101-104, the information to be translated is divided into first language structural segments, each first language structural segment (to be translated) is compared with the stored first language character string model segments (step 103) in order to select one stored first language character string model segment on the basis of the comparison (step 104).

Note, the information to be translated is divided into untranslated structural segments based on a first rule of the identification of at least one of an intermediate word and a suffix.

When a close first language model segment is found that matches the untranslated first language structural segment, then (steps 110, 121) the method reads, as a translation segment, a stored second language model segment that has previously been logically connected to the selected one first language character string model segment. This results in translating the first structural segment into the translation segment, the translation segment being in the form of a character string in the second language (step 121).

However, when if no close first language model segment is found that matches the untranslated structural segment (step 110), then the present invention learns, via interaction with the user, how to translate the untranslated structural segment.

The learning is done by i) the first structural segment being displayed to a user (step 131), ii) after the first structural segment is displayed to the user, the user inputs a translation of the displayed first structural segment as an equivalent segment (step 132). The translation rule is updated by iii) storing the first structural segment and the equivalent segment, input by the user, in the knowledge base for use as a

new first language character model segment and a new second language model segment (steps 133, 134).

In claim 1 these "learning steps" are recited as:

"when no model segment to be selected following the second rule is found as a result of the comparison of the structural segments,"

"i) the structural segment is displayed by means of a user interface to a user,"

"ii) after the structural segment being displayed to the user, the user inputs, from the user interface, the translation of the displayed structural segment as the equivalent segment,"

"iii) storing the structural segment and the equivalent segment, input by the user, in the knowledge base for use as model segments in the knowledge base, and"

"one of said rules is updated on the basis of equivalent segment input by the user from the user interface."

Claims 10 and 16 are similar, claim 16 reciting a means (20, 24) for identifying the structural segment in said information given as a character string in the first language comprise means for identifying an intermediate word and/or suffix, said first rule being essentially based on said identification of the intermediate word and/or suffix.

(vi) **Grounds of Rejection to be Reviewed on Appeal**

Whether the rejection of claims 1-2, 4-6, 8-12, and 14-16 under §102 as anticipated by FRANZ et al. (EP 805403) and claim 13 under §103 as obvious over FRANZ et al. in view of BROWN et al. 5,768,603 was proper. More specifically, the ground of rejection to be reviewed on appeal is whether the independent claims were properly rejected as anticipated by FRANZ.

(vii) **Arguments**

Arguments Concerning the First Ground of Rejection

The Examiner incorrectly urges that FRANZ discloses the recited learning steps of the independent claims.

The Examiner is incorrect because there is no disclosure that FRANZ teaches a user providing translations for first language phrases that the FRANZ translator does not already know how to translate into a second language. Rather, FRANZ teaches to translate what can be translated into the second language and then to indicate "non-translatable segments" that cannot be translated into the second language by outputting the non-translatable segments as untranslated first language text into a morpheme based syntax analyzing processing part.

Thus, the present invention and FRANZ are fundamentally different in that FRANZ outputs non-translatable segments as untranslated first language text for syntactical analysis,

whereas the present invention learns via interaction with the user.

On page 2 of the July 29, 2005 Official Action (Response to Arguments), the Examiner as much as admits these learning steps recitations are not disclosed in that the Examiner states that FRANZ teaches storing which **implies** updating, and updating **implies** user translation information input.

Accordingly, the anticipation rejection relies on at least a double implication. A double implication does not satisfy the specifically recited claim steps and cannot be the basis for an anticipation rejection.

Further, the implications are without support. Rather than interacting with the user to define a translation, the FRANZ disclosure (at page 7, lines 10-14) directly states that when no matching clause is found, the sentence (small clause) is unchanged and is sent for syntax analysis using morpheme information.

See also FRANZ page 6, lines 26-27 and 48-50 as well as page 2, line 34 "[w]hen no example matching the first language sentence from the inputting part 1 is stored in the set phrase translation example memory 3, the collating part 2 outputs the first language sentence from the inputting part 1 and its morpheme information to a clause dividing part 4."

FRANZ teaches to translate the unknown structural segment as best it can by dividing the segment into smaller

clauses that can be translated. See the paragraph spanning pages 6-7 disclosing that the dividing part 4 attempts to divide a segment into smaller pieces in order to translate each smaller piece.

However, in lines 10-14, it is disclosed that when a small piece (a clause) has no stored match, FRANZ the first language clause is sent untranslated into a simple analyzing processing part 6.

The analyzing processing part relies on morpheme information to do syntax analyzing. See page 7 generally from line 15. However, there is no disclosure of asking the user to provide a translation.

The learning steps recite (e.g., claim 1) by the following: "when no model segment to be selected following the second rule is found as a result of the comparison of the structural segments," "i) the structural segment is displayed by means of a user interface to a user,".

FRANZ does not disclose that "the [untranslatable] structural segment is displayed by means of a user interface to a user", at least in a context consistent with the claims' recitations of when a corresponding first language model segment is not found.

Further, FRANZ does not disclose any of:

"ii) after the structural segment being displayed to the user, the user inputs, from the user interface, the

translation of the displayed structural segment as the equivalent segment,"

"iii) storing the structural segment and the equivalent segment, input by the user, in the knowledge base for use as model segments in the knowledge base, and"

"one of said rules is updated on the basis of equivalent segment input by the user from the user interface."

The Examiner appears to have misunderstood the scope and limitations of FRANZ. FRANZ only teaches a machine translation (page 2, lines 25 and 33) and an improvement involving syntax translation when a non-translatable segment is encountered.

Absent evidence of the recited features, the anticipation rejection is based on speculation and misunderstand.

Reversal of the anticipation and obviousness rejections is accordingly therefore respectfully requested.

(viii) **Claims Appendix**

A copy of the claims involved in the appeal.

(ix) **Evidence Appendix**

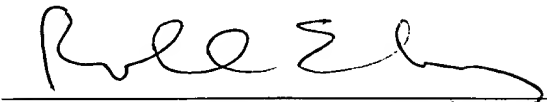
None.

(x) **Related Proceedings Appendix**

None.

Respectfully submitted,

YOUNG & THOMPSON



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(viii) **Claims Appendix**

1. A method for machine translation of information given as a character string in a first language into a character string in a second language, comprising:

-storage in the knowledge base of model segments in the form of character strings in said first language, and in logical connection with these, model segments (133, 134) in the form of character strings in the second language,

-identifying a structural segment in the character string of said first language following a first rule (102),

-comparing said identified structural segment with model segments (104) in the form of character strings in the first language stored according to a second rule,

-striving to select one model segment (110) on the basis of said comparison,

-reading a model, i. e. equivalent segment (121) in the form of a character string in the second language logically connected to the selected model segment, and

-translating said structural segment into said translation segment in the form of a character string in the second language on the basis of said equivalent segment and a third rule (122), characterised in that

the method comprises the identification of an intermediate word and/or a suffix and said first rule is

essentially based on the identification of said intermediate word and/or suffix,

when no model segment to be selected following the second rule is found as a result of the comparison of the structural segments,

i) the structural segment is displayed by means of a user interface to a user,

ii) after the structural segment being displayed to the user, the user inputs, from the user interface, the translation of the displayed structural segment as the equivalent segment,

iii) storing the structural segment and the equivalent segment, input by the user, in the knowledge base for use as model segments in the knowledge base, and

one of said rules is updated on the basis of equivalent segment input by the user from the user interface.

2. A method as claimed in claim 1, characterised in that said information to be given as a character string in the second language is generated on the basis of translation segments and a fourth rule (124).

4. A method as claimed in claim 1, characterised in that said structural segment comprises a punctuation mark.

5. A method as claimed in claim 1, characterised in that the type identifier of the model segment is stored in logical connection with the model segment.

6. A method as claimed in claim 1, characterised in that there are more than two model segments representing different languages logically connected to each other.

8. A method as claimed in claim 1, characterised in that information is fed over the user interface to update the knowledge base with a view to translate first information and said input data is used to update other data than those needed for the translation of said first information in said knowledge base.

9. A method as claimed in claim 1, characterised in that the method further comprises steps of:

-reading the first information given as a character string in the first language,

-translating the first information given as a character string in said first language on the basis of data in the knowledge base into first information given as a character string in the second language to the extent allowed by the data available in the knowledge base,

-determining the additional data needed to complete the translation of the first information given as a character string in the first language into first information in the form of a character string in the second language,

-feeding said additional data in the knowledge base to update the knowledge base,

-completing the translation of the first information given as a character string in the first language into first information given as a character string in the second language,

-storing said first information given in the second language,

-reading the second information given as a character string in the first language,

-translating the second information given as a character string in said first language into second information given as a character string in the second language on the basis of said updated data in the knowledge base.

10. An arrangement for translating information given as a character string in a first language into a character string in a second language, comprising:

-knowledge base means (20, 25) for storing model segments in the form of character strings in said first language, and in logical connection with these, equivalent segments in the

form of character strings in the second language, and for storing a first, second and third rule,

-means (20, 24) for identifying structural segments in the information given as a character string in said first language following a first rule,

-means (20, 25) for comparing said identified structural segment with the model segments stored in the form of character strings in the first language following a second rule,

-means (20) for selecting one model segment on the basis of said comparison,

-means (20, 25) for reading the model, i. e. equivalent segment in the form of a character string in the second language logically connected to the selected model segment in said knowledge base means, and

-means (20, 24) for translating said structural segment into said translation segment in the form of a character string in the second language on the basis of said equivalent segment and a third rule, said translation segment representing the information to be given in said second language, characterised in that

said means (20, 24) for identifying the structural segment in said information given as a character string in the first language comprise means for identifying an intermediate word and/or suffix, said first rule being essentially based on said identification of the intermediate word and/or suffix,

when no model segment to be selected following the second rule is found as a result of the comparison of the structural segments,

i) the structural segment is displayed by means of a user interface to a user,

ii) after the structural segment being displayed to the user, the user inputs, from the user interface, the translation of the displayed structural segment as the equivalent segment,

iii) storing the structural segment and the equivalent segment, input by the user, in the knowledge base for use as model segments in the knowledge base, and

one of said rules is updated on the basis of the equivalent segment input by the user from the user interface.

11. An arrangement as claimed in claim 10, characterised in that it further comprises means (20, 25) for generating information to be given as a character string in the second language on the basis of at least two translation segments and a fourth rule.

12. An arrangement as claimed in claim 10, characterised in that it comprises user interface means (22, 23) for connecting the user to said knowledge base means.

13. An arrangement as claimed in claim 12, characterised in that the user interface means are connected to said knowledge base means over a data transmission network.

14. An arrangement as claimed in claim 10, characterised in that said knowledge base means comprise a first knowledge base means (25) and a second knowledge base means so that specific users have access to said first knowledge base means and only some of said specific uses have access to said second knowledge base means.

15. An arrangement as claimed in claim 10, characterised in that said knowledge base means comprise a first knowledge base means (25) and a second knowledge base means, the arrangement comprising means for data input from the user interface means to said second knowledge base means and means for selective transfer of data stored in said second knowledge base to said first knowledge base means.

16. A method for machine translation of information given as a character string in a first language into a character string in a second language, comprising the steps of:

storing, in a knowledge database, first language character string model segments, and, storing second language model segments in logical connection with the first language

character strings, the second language model segments being second language character strings;

following a first rule, identifying a first structural segment in a first language character string;

following a second rule, comparing the first structural segment with the stored first language character string model segments;

selecting one stored first language character string model segment on the basis of said comparison;

reading, as a translation segment, a stored second language model segment that has previously been logically connected to the selected one first language character string model segment; and

following a third rule, translating the first structural segment into said translation segment, the translation segment being in the form of a character string in the second language, wherein,

the first rule comprises the identification of at least one of an intermediate word and a suffix,

when following the second rule, no first language character model segment is found that matches the first structural segment,

i) the first structural segment is displayed to a user,

ii) after the first structural segment is displayed to the user, the user inputs a translation of the displayed first structural segment as an equivalent segment,

iii) storing the first structural segment and the equivalent segment, input by the user, in the knowledge base for use as a new first language character model segment and a new second language model segment, and

one of said rules is updated on the basis of equivalent segment input by the user.